Example #1 - Hand Wipe Cleaning Recordkeeping Form

Plant Name: _____ Shop: _____ Supervisor: _____

Record info in Bold
Report info in italics semi-annually

	Example 1	*Example 2*	*Example 3*
Inventory Date	1/1/98	1/1/98	1/1/98
Operation Performed	General aircraft cleaning	General aircraft cleaning	General aircraft cleaning
Exempt or non-exempt activity[1]	non-exempt	non-exempt	non-exempt
Solvent Used[2]	**Aircraft Thinner Type A**	**General Purpose Cleaner**	***Aircraft Thinner Type C***
Manufacturer	Thinner USA	We Be Clean Inc.	Thinner USA
Source of HAP Constituents	MSDS **T** Testing **9**	MSDS **T** Testing **9**	MSDS **T** Testing **9**
Organic HAP Consituents include % of each HAP	MEK 3 MIBK 7	MEK 60 MIBK 3 Toluene 15	MEK 5 MIBK 30 Xylene 24 Toluene 3
Aqueous solvent % water$80 Miscible with water Flash point >200 EF	 Yes **T** No **9** **85** **Yes T** No **9** Yes **T** No **9** **210**	 Yes **9** No **T** ___ Yes **9** No **T** Yes **9** No **T** ___	 Yes **9** No **T** ___ Yes **9** No **T** Yes **9** No **T** ___
Hydrocarbon based solvent VP# 7 mmHg@20EC Photochemically reactive or Oxygenated No HAP	 Yes **9** No **T** ___ Yes **9** No **T** Yes **9** No **T** Yes **9** No **T**	 Yes **9** No **T** ___ Yes **9** No **T** Yes **9** No **T** Yes **9** No **T**	 Yes **9** No **T** ___ Yes **9** No **T** Yes **9** No **T** Yes **9** No **T**
Composite Vapor Pressure # 45 mmHg@20EC[3] (Option 2)	Yes **T** No **9** 10	Yes **T** No **9** **30**	Yes **9** No **T** 49.1
Compliance Method[4]	Option 1 (aqueous)	Option 2 (vp)	***non-exempt, non-compliant***
Material usage (in gallons)	Actual **T** Purchase **9**	Actual **9** Purchase **T**	Actual **T** Purchase **9**
January	25	**5**	
February	83	**3**	
March	17	**7**	15 ***(3/23/98)***
April	55	**3**	12 ***(8/1/98)***
May	77	**7**	
June	89	**1**	**2** ***(2/21/98)***
July	59	**3**	
August	139	**5**	**Report any instance where**
September	150	**7**	**non-compliant, non-exempt**
October	25	**1**	**solvent is used**
November	66	**3**	
December	21	**1**	

[1] Exempt operations that do not conform to VP or composition requirements must be reported. See back of form for list of exempt operations.
[2] keep a record of the solvent name, VP, and organic HAP constituents as required in 63.752(b)(1), general cleaning. MSDSs or Product Data Sheets can be used.
[3] See back of form for calculating composite vapor pressures.
[4] Option 3 (solvent reduction >60%) requires submission of an alternate plan (ä63.477(b)(3))

Yearly Total (gals)	**806**	46	29

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Example #1 - Hand Wipe Cleaning Recordkeeping Form (cont'd)

Be aware that if you use a non-compliant solvent on an exempt operation, you must document the amount of each cleaning solvent used each month at each operation. You must also list the process to which the cleaning operation applies.

What operations are exempt from hand wipe cleaning requirements? Exemptions include cleaning of . . .

- breathing oxygen systems exposed to breathing oxygen
- parts exposed to strong oxidizes or reducers
- surface activation prior to adhesive bond
- electronic parts and assemblies containing electronic parts
- aircraft and ground support equipment fluid systems that are exposed to fluid
- fuel cells, fuel tanks, and confined spaces
- solar cells, coating optics, and thermal control surfaces
- upholstery, curtain, carpet and other textiles used in the interior of the aircraft
- metallic and non-metallic materials used in honeycomb cores
- aircraft transparencies, polycarbonate, or glass substrates
- Cleaning associated with research and development, quality control and laboratory testing
- Cleaning using nonflammable liquid conducted within 5 feet of energized electrical systems
- Cleaning operations identified as essential use under the Montreal Protocol

How do I calculate composite vapor pressure?

For single component solvents: Calculate VP using the solvents' MSDS, other manufacturing data, standard engineering reference texts or other methods.

For blended solvents: If your solvent contains more than one HAP, calculate VP using the following equation: (or use test method ASTM E-260-91). 1 lb = 453.6 grams

$$PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \sum_{e=1}^{n} \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

	Description
W_i	weight of the “i”th VOC compound, grams
W_w	weight of water, grams
W_e	weight of non-HAP, non-VOC compounds, grams
MW_i	molecular weight of the “i”th compound, g/g mole
MW_w	molecular weight of water, g/g mole
MW_e	molecular weight of exempt compound, g/g mole
PP_c	VOC composite partial pressure at 20EC, mm Hg
VP_i	Vapor pressure of the “i”th VOC compound at 20EC, mm Hg

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Inventory Date			
Operation Performed			
Exempt or non-exempt activity[1]			
Solvent Used[2]			
Manufacturer			
Source of HAP Constituents	MSDS **9** Testing **9**	MSDS **9** Testing **9**	MSDS **9** Testing **9**
Organic HAP Consituents include % of each HAP			
Aqueous solvent % water$80 Mscible with water Flash point >200 EF	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** ___	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** ___	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** ___
Hydrocarbon based solvent VP# 7 mmHg@20EC Photochemically reactive or Oxygenated No HAP	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** Yes **9** No **9**	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** Yes **9** No **9**	 Yes **9** No **9** ___ Yes **9** No **9** Yes **9** No **9** Yes **9** No **9**
Composite Vapor Pressure # 45 mmHg@20EC[3] (Option 2)	Yes **9** No **9** ___	Yes **9** No **9** ___	Yes **9** No **9** ___
Compliance Method[4]			
Material usage (in gallons)	Actual **9** Purchase **9**	Actual **9** Purchase **9**	Actual **9** Purchase **9**
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Yearly Total (gals)			

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MW_e	molecular weight of exempt compound, g/g mole
PP_c	VOC composite partial pressure at 20EC, mm Hg
VP_i	Vapor pressure of the “i”th VOC compound at 20EC, mm Hg